AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009
GRANTS FOR TRANSPORTATION INVESTMENT GENERATING ECONOMIC RECOVERY
"TIGER DISCRETIONARY GRANTS"

Reconstruction of the I-95 Bridge over the Housatonic River
Bridge No. 00135
"Moses Wheeler Bridge"
Stratford and Milford, CT

State Project No. 138-221

Prepared by

State of Connecticut
Department of transportation

Commissioner Joseph F. Marie
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PROJECT OVERVIEW

i. Type of project (highway, transit, rail, port or other):
Bridge Replacement
I-95 over the Housatonic River – Bridge No. 00135 – "The Moses Wheeler Bridge"

ii. Project location, including state, city, county and congressional district:
The project is located in the Towns of Stratford and Milford, Connecticut
Fairfield and New Haven Counties
US Congressional District 3 (Rosa DeLauro).

iii. Is project in urban or rural area?
The project is located in an urban area that is effectively fully developed. The population of Fairfield County is 885,000 and New Haven County is 824,000.

iv. Amount of TIGER grant funds requested:
This application is requesting $37 Million (10% of total project cost)
Connecticut Department of Transportation DUNS number - 807854583
Central Contractor Registration Confirmation Number - QZX9NA

Objective

This TIGER Grant funding request of $37 million is for the replacement of the Moses Wheeler Bridge – Interstate 95 over the Housatonic River. This bridge is a vital link along the I-95 corridor in CT and is in serious condition. Continued emergency repairs are a drain on the State's economy.

The project being submitted for this TIGER Grant Application is the replacement of the Interstate I-95 Bridge over the Housatonic River - Bridge No. 00135 (the "**Moses Wheeler Bridge**") This bridge has been determined to be functionally obsolete and is in serious structural condition and requires constant emergency maintenance to keep it operational. The shoulders of the bridge are narrow, substandard and are a serious safety hazard due to limited sight distances. Bridge No. 00135 is a thirty –four span structure with a total length of 3196 feet carrying I-95 over the Housatonic River and Naugatuck Avenue in Stratford and Milford, CT. The Bridge was built in 1958 and has exceeded its life expectancy.

The superstructure consists of a reinforced concrete deck supported by 14 rolled steel girders and a **Fracture Critical** Main Girder/Floorbeam/Stringer System. The structural condition inspection performed last November determined that the **general overall condition of the bridge is serious (Rating = 3).** This rating is in conformance with the FHWA document "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges". The deficiencies found are as follows:

1. The deck, even after emergencies repairs were made during the summer of 2008, is in poor condition (Rating = 4). Traffic Counts are 112,000 ADT with 13% trucks that continually pound the deck and superstructure.
2. The superstructure is in serious condition (Rating = 3). The structure is non-redundant, contains fracture critical elements and is fatigued due to heavy truck traffic. The fixed bearings are heavily rusted and most of the sliding bearings are frozen. This condition affects the way the structure reacts to expansion and contraction and adds stresses to the deteriorated steel superstructure and concrete substructure. The ends of the fascia stringers at the piers exhibit heavy rust and holes up to 7 in. by 4 in. in the web. The stringers under the median exhibit rust and section loss up to 25% in critical zones and 50% loss in other areas with some holes. The rolled steel girder webs exhibit areas of section loss up to 25% over the bearings. Some repairs have been made but horizontal tears in the webs are still visible. The floorbeam top flange tie plates are severely deteriorated with up to 86% loss of section.

Due to the severe deterioration, The Moses Wheeler Bridge is a constant drain on limited State maintenance funds. The bridge will therefore be replaced by an entirely new structure.

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An index to most of the internet links contained in this application can be found at
www.ct.gov/dot/cwp/view.asp?a=1372&Q=444928&PM=1

Contact Information

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1 Project Description

The project is located at the boundary between Fairfield and New Haven Counties in the Towns of Stratford and Milford, Connecticut. The purpose of the project is the replacement of the Moses Wheeler Bridge (Bridge No. 00135) which is in serious condition, is structurally deficient and has been determined to be functionally obsolete. The Moses Wheeler Bridge will be replaced by an entirely new structure. The project location is shown is shown in Figure 1.

A routine inspection of the structure was performed between November 3, 2008 and January 8. 2009. The following information was taken from the April 2009 Bridge Safety Inspection Report. The full inspection report a can be found at
http://www.ct.gov/dot/lib/dot/documents/dcommunications/stimulus/tiger/moses/BSE00135_IR20081103ROUTINE.PDF.pdf

Bridge No. 00135 is a thirty–four span structure with a total length of 3196 carrying **Interstate 95 (I-95)** over the Housatonic River and Naugatuck Avenue in Stratford and Milford, CT. The Bridge was built in 1958 and is beyond its service life without extensive continued maintenance. The superstructure consists of a reinforced concrete deck supported by 14 rolled steel girders (spans 1-7 & 29-34) and **Fracture Critical** Main Girder/Floorbeam/Stringer System (spans 8-28) with a total length of 3196 feet. The bridge condition inspection performed last November determined that the **general overall condition of the bridge is serious (Rating = 3).** A condition rating of 3 indicates that a loss of section, deterioration, spalling, or scour have seriously affected primary structural components. Local failures are possible. Fatigue Cracks in steel may be present. This rating is in conformance with the FHWA document "recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges". The rating structure is numeric from 9 to 0. (9 = Excellent, 0 = Failed Condition)
Due to this condition rating the bridge is inspected every year.
The deficiencies found are as follows:

1. **The deck, even after major capital repairs (at a cost of $7 Million) were performed as an *Emergency Declaration* during the summer of 2008, is in poor condition (Rating = 4).** To view a copy of the emergency declaration letter please go to
http://www.ct.gov/dot/lib/dot/documents/dcommunications/stimulus/tiger/moses/3-20-07_emergency_dec._br._00135.pdf

Portions of the concrete deck are concealed from view by stay-in-place forms which exhibit heavy rusting and holes. The bare areas of the underside of deck display alligator cracking with efflorescence, areas of honeycomb up to 1 inch deep and some areas of heavy scaling. There are also hollow areas and spalls. The underside of deck deterioration covers almost 20% of the total deck area.

2. **Emergency steel repairs were preformed during the summer of 2009. This was also performed under an emergency declaration at a cost of $3 million. Even after these repairs the superstructure is in serious condition (Rating = 3).** To view a copy of the emergency declaration letter please go to
http://www.ct.gov/dot/lib/dot/documents/dcommunications/stimulus/tiger/moses/3-17-08_emergency_dec._br._00135.pdf

a. All of the fixed bearings are heavily rusted and need to be cleaned and painted. Total 356.

b. All of the sliding bearings exhibit heavy rust and most are frozen (causing added stresses to the seriously deteriorated steel superstructure and concrete substructure) and should be replaced with elastomeric bearings or at least cleaned and painted.

c. The ends of the fascia stringers at the piers exhibit heavy rust and **holes up to 7 in. by 4 in. in the web.**

d. The stringers under the median exhibit rust and **section loss up to 25% in critical zones** and 50% loss in other areas with some holes.

e. The rolled steel girder webs exhibit areas of **section loss up to 25% over the bearings**. Some repairs have been made but horizontal tears in the webs are still visible.

f. The **fracture critical riveted deck girders exhibit section loss in the webs**.

g. **The floorbeam top flange tie plates are severely deteriorated with up to 86% loss of section**. Some Steel members are rated as low as 2. Below are phots of other critical

areas of deterioration:

Section loss in bottom flange

Hole in web

Hole in bottom flange

Section loss in bottom flange

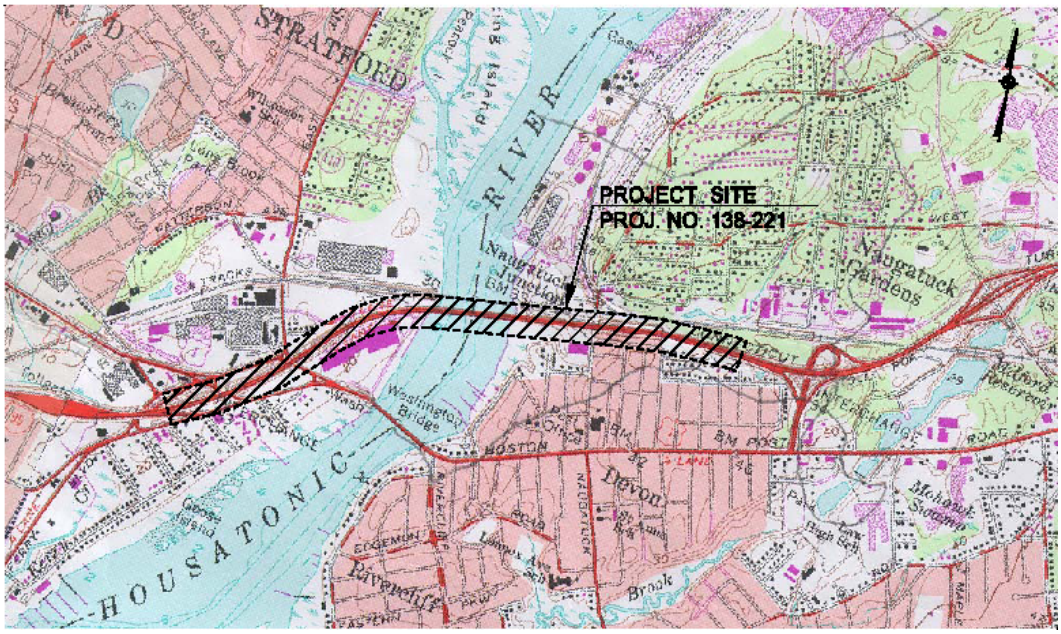
Impacted rust between bottom flange plates puts extreme stresses into the bottom plates potentially causing cracking and failure of members.

Without substantial repairs or replacement this bridge will, in the near future, need to be posted for lower load limits that will seriously impact commercial truck traffic on this vital interstate link between the New York Metropolitan area and New England.

Due to the serious condition of the structure, a Preliminary Engineering Study Phase was begun in December 1999 and completed in May 2000. **This rehabilitation/replacement study determined that the bridge should be replaced.** The Preliminary Design Phase was initiated in 2000 and completed in May 2001. Categorical Exclusion Approval and Design Approval were issued by FHWA on December 12, 2001. The Final Design Phase was initiated in January 2002 and the Final Plans for Review Submission was in September 2004. In 2008 the project was split into two projects for construction. The first project (No. 138-232) includes construction of the drilled shaft

foundations for the Moses Wheeler Bridge and is scheduled to start construction in August 2009. (This part of the project is already funded and not a part of this application) The remaining work (bridge superstructure and highway approaches Project No. 138-221) is being packaged for advertising and construction to start in 2010. Completion of construction is anticipated to be in 2017.

The project will replace the existing Moses Wheeler Bridge with a new 3,044 foot bridge and separate single span bridge across Naugatuck Avenue (Bridge No. 06613). The new Moses Wheeler Bridge section consists of three travel lanes in both the northbound and southbound directions and full width left and right shoulders according to CTDOT standards. The project limit extends approximately 2,726 feet west of the bridge in Stratford to realign and reconstruct the highway approach section. This work on this western approach to the Moses Wheeler Bridge includes the replacement of two single span bridges, Bridge Nos. 00133 and 00134 over U.S. Route 1 Northbound and U.S. Route 1 Southbound. The project limits extend approximately 1,820 feet east of the new Bridge No. 06613 (over Naugatuck Avenue) to include the realignment and reconstruction of the highway approach section. The project limits are located between Interchange No. 33 in Stratford and Interchange No. 34 in Milford.
The work on Route I-95 included in this project will also improve safety by making geometric improvements to improve stopping sight distance and widen shoulders to conform to current standards.



Source: USGS Milford and Bridgeport Quadrangle Maps

Figure 1 - Project Location Map

The project will be funded through several funding sources and categories, including Federal Aid administered by the FHWA. The project is subject to FHWA oversight (i.e., non-exempt) based on its (Interstate) location and cost. Consequently, the Plans, Specifications and Estimate (PS&E) are subject to FHWA approval.
This bridge along I-95 is a critical link between Bridgeport and New Haven, two economically distressed cities with populations of approximately 900,000 each, in southern Connecticut. The project is located in an urban area that is effectively fully developed. Properties located adjacent to and in the immediate vicinity of the project site consist of residential, commercial and industrial land uses.

TRAFFIC DATA
As the only interstate route for vehicular and truck traffic through southern Connecticut I-95 is a vital resource for the economy of Connecticut and the region. Route I-95 carries a two-way ADT (2008) of approximately 111,200 (with 13% trucks), providing for goods movement and journey-to-work and personal travel. The 2025 projected

volumes for southbound traffic are 5450 pm peak, 6750 am peak and 64,900 ADT. The 2025 projected volumes for northbound traffic are 6750 pm peak, 5450 am peak and 67,600 ADT.

2 Project Parties

- The Federal Highway Administration is providing design approvals and funding through Highway Bridge Rehabilitation – On System Funds and Interstate Maintenance Funds.
- The Connecticut Department of Transportation is the project sponsor and is providing Funding through State Bridge Bond Funds and Interstate Bond Funds. The project is included in the State's Transportation Improvement Program (STIP).
- The Connecticut Department of Environmental Protection is a cooperating Agency. Permit approvals have been received for General Inland Wetland, Inland Flood Management Certificate, 401 Water Quality Certificate, Structure Dredging & Fill and Tidal Wetland and General permit for Discharge of Storm Water and Wastewater Associated with Construction Activities.

Collaboration and coordination with the following entities has been instrumental to the continued progress of this project:

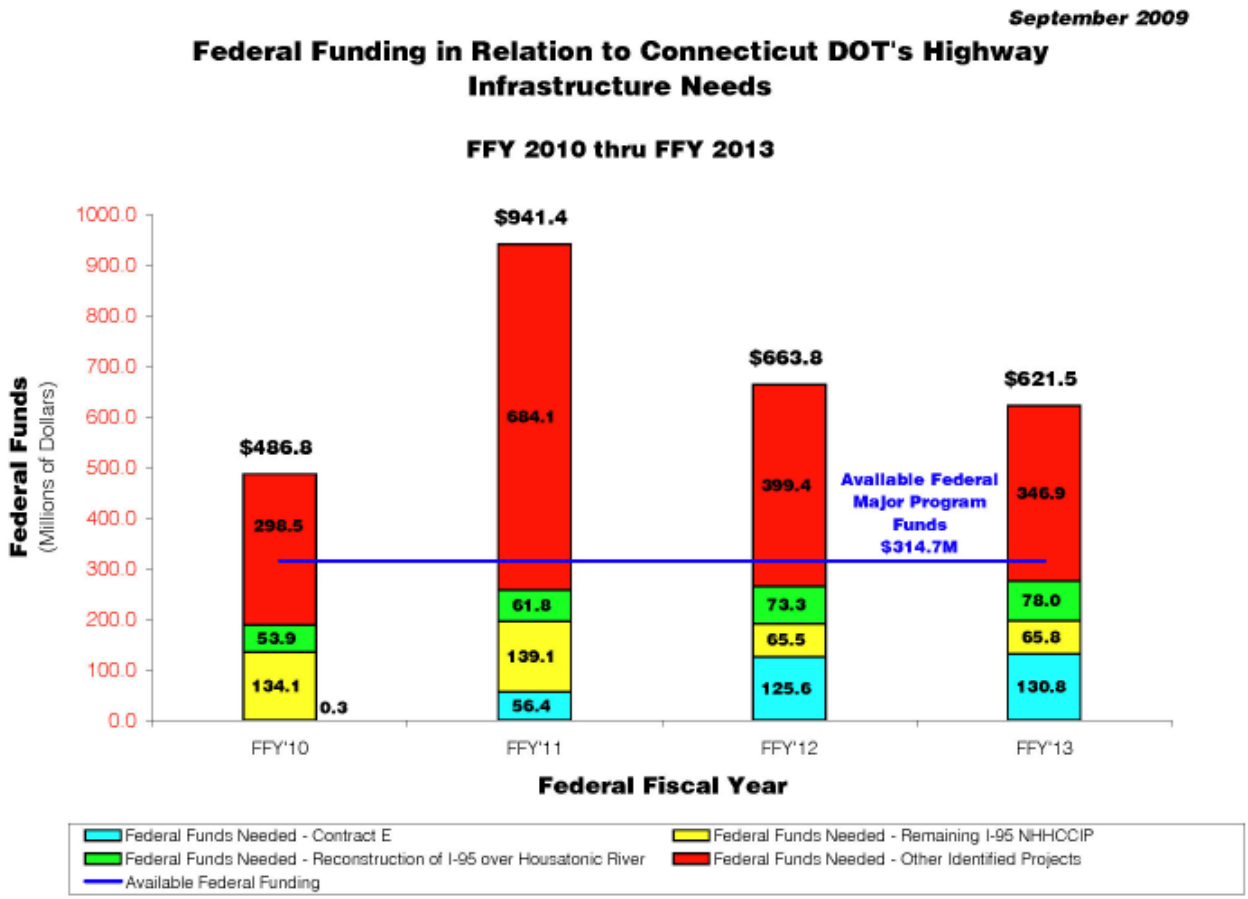
- US Army Corps of Engineers – Individual Permit received
- US Coast Guard – Permit Received
- Greater Bridgeport Regional Planning Agency – The MPO supported the project for inclusion in STIP
- South Central Council of Governments – The MPO supported the project for inclusion in STIP
- City of Milford – Supported the project through active participation in public involvement process.
- Town of Stratford - Supported the project through active participation in public involvement process.

3 Grant Funds

A financial plan has been prepared for this project and was submitted to FHWA in December 2008. This plan was prepared in accordance with Title 23, section 106(h) and SAFETEA-LU Section 23USC106(i) which requires recipients of federal financial assistance for projects with a total cost of between $100 and $500 million to prepare a financial plan. The Plan for the Moses Wheeler Bridge project has been approved by FHWA and, in accordance with FHWA requirements, indicates all costs will be covered by Federal or State contributions and the impact of the project on the State's Transportation Capital Plan has been assessed. The total projected costs for the project that is being submitted under this application (Project 138-221) is $370 Million. **The amount of funding being requested through this Tiger Grant Application is $37 Million (10% of the total project cost). This $37 Million will be used to supplement the funding for the first phase of this second project and will be fully utilized during the first year(s) of the project.**

This application is requesting supplemental funding to replace sources already indicated in the financial plan. The magnitude of this project, in conjunction with the 2 remaining Q-corridor projects in New Haven County are committing nearly all of the Major FHWA Programs for new construction in the/FHWA's Annual Highway/Bridge Capital Budget for the next several years. The State of Connecticut relies almost entirely on the FHWA for its Capital Improvement Program in the Highway/Bridge transportation modes. This seriously impacts the ability of the State of Connecticut to fund much needed projects in other areas of the State. **Using the TIGER Grant Funds for this project will allow the State of Connecticut to carry out other needed projects that will also create jobs for economically distressed areas.**

The following chart demonstrates the State of Connecticut's current federal funding needs in relation to the amount of federal funding allocated to the state in the next four years. The State has also committed to providing the State match for all federal funding, which varies from 10% to 20% depending on the specific federal program:



This chart provides an overview of Connecticut's transportation funding picture. It indicates that two initiatives (I-95 New Haven Harbor Crossing Corridor Improvement Program (NHHCCIP) and Moses Wheeler Bridge) will essentially exhaust Connecticut's apportioned Federal funds through Federal fiscal year 2013. TIGER grant applications are being submitted for both I-95 NHHCCIP (separately) and Moses Wheeler Bridge (this application). Without additional Federal funding, nearly all other transportation needs across the State will be deferred. **It is also noted, that while this chart addresses two major initiatives, all other expenditures and fiscal information described in this grant application apply exclusively to the Moses Wheeler Bridge**.

The following is a synopsis of the current Moses Wheeler Bridge Funding Plan. The full plan can be found at http://www.ct.gov/dot/lib/dot/documents/dcommunications/stimulus/tiger/moses/MWB_Financial_Plan.pdf

The project funding for the preliminary engineering, rights-of-way and construction phases for the Moses Wheeler Bridge projects is shown in Table 1a. – *Project Funding for the Moses Wheeler Bridge Project*. The costs are broken down per federal fiscal year. This table also shows a program contingency element for the various phases of the projects. The program contingency is to ensure that the financial commitments from the State will be made available to complete all of the proposed phases of the projects.

The costs for the construction phase of the Moses Wheeler Bridge project are listed below. The contract items are based on the latest proposal estimate dated August 8, 2007 which was developed by the Designer, STV Incorporated, and escalated to the midpoint of construction (Year 2013). The costs for incidentals and contingencies are developed from percentages of the contract items that have been developed by the

Connecticut Department of Transportation and concurred by the Federal Highway Administration. For a project with a contract value greater than $50 million, the recommended percentages for incidentals and contingencies are 12% and 7% respectively. The utility costs are based on the reimbursable agreements that the Department has in place with individual companies for the adjustment and relocation of utility facilities.

Contract Items: $ 308,530,000
Incidentals: $ 37,024,000 (12% of Contract Items)
Contingencies $ 21,597,000 (7% of Contract Items)
Utilities $ 1,000,000
Total: $ 368,151,000

Funding Sources for the Projects

Federal Highway Administration

- Highway Bridge Rehabilitation – On System Funds
- Interstate – Maintenance Funds

State of Connecticut

- State Bridge Bond Funds
- Intrastate Bond Funds

The State funds will be available for these projects.

This Financial Plan will be updated by CTDOT annually and forwarded to the FHWA by the end of November until the projects are completed

TABLE 1a. - PROJECT FUNDING FOR THE MOSES WHEELER BRIDGE PROJECT
PROJECT NOS. 138-221/232
FAP NOS. 0951(169) & 0951(345)

PROJECT FUNDING FOR THE MOSES WHEELER BRIDGE PROJECT												
	FFY 2001 TO FFY 2008	FFY 2009	FFY 2010	FFY 2011	FFY 2012	FFY 2113	FFY 2014	FFY2015	FFY 2016	SUBTOTAL	PROGRAM CONTINGENCY (10%)	TOTAL
PRELIMINARY ENGINEERING	$11,100,000	$2,000,000	$1,300,000	$0	$0	$0	$0	$0	$0	$14,400,000*	$1,440,000	$15,840,000
RIGHTS OF WAY	$146,500	$2,000,000	$0	$0	$0	$0	$0	$0	$0	$2,146,500*	$215,000	$2,361,500
CONSTRUCTION (138-232)	$0	$6,233,670	$37,097,360	$10,927,270	$0	$0	$0	$0	$0	$54,258,300	$5,426,000	$59,684,300
CONSTRUCTION (138-221)	$0	$0	$22,743,370	$57,772,922	$81,403,064	$86,641,438	$52,590,440	$51,074,430	$15,925,336	$368,151,000	$36,815,000	$404,966,000
TOTAL	$11,246,500	$10,233,670	$61,140,730	$68,700,192	$81,403,064	$86,641,438	$52,590,440	$51,074,430	$15,925,336	$422,409,300	$43,896,000	$482,851,800

SEE NOTES:

1) *Existing Authorization (Funds already obligated)

2) Unless otherwise noted - all funds are "Anticipated Authorization" (Funds to be obligated in the future)

TABLE 4. - CONSTRUCTION CASH FLOW - INTERSTATE 95/MOSES WHEELER BRIDGE
PROJECT NOS. 138-221/232
FAP NOS. 0951(169) & 0951(345)

CONSTRUCTION EXPENDITURES PER FEDERAL FISCAL YEAR

FEDERAL AND STATE FUNDS	FFY 2009	FFY 2010	FFY2011	FFY 2012	FFY 2013	FFY 2014	FFY 2015	FFY 2016	TOTAL
PROJECT NO. 138-232	$6,233,670	$37,097,360	$10,927,270						$54,258,300
PROJECT NO. 138-221		$22,743,370	$57,772,922	$81,403,064	$86,641,438	$52,590,440	$51,074,430	$15,925,336	$368,151,000
TOTAL	$6,233,670	$59,840,730	$68,700,192	$81,403,064	$86,641,438	$52,590,440	$51,074,430	$15,925,336	$422,409,300

CONSTRUCTION FINANCING PER FEDERAL FISCAL YEAR

	FFY 2009	FFY 2010	FFY 2011	FFY 2012	FFY 2013	FFY 2114	FFY 2015	FFY 2016	TOTAL
FEDERAL FUNDS									
HIGHWAY BRIDGE REHABILITATION - ON SYSTEM	$2,805,151	$26,928,329	$30,915,086	$36,631,379	$38,988,647	$23,665,698	$22,983,494	$7,166,401	$190,084,185
OBILIGATION LEVELS	$2,900,000	$27,000,000	$31,000,000	$36,700,000	$39,000,000	$23,700,000	$23,000,000	$7,200,000	$190,500,000
INTERSTATE - MAINTENANCE	$2,805,151	$26,928,329	$30,915,086	$36,631,379	$38,988,647	$23,665,698	$22,983,494	$7,166,401	$190,084,185
OBLIGATION LEVELS	$2,900,000	$27,000,000	$31,000,000	$36,700,000	$39,000,000	$23,700,000	$23,000,000	$7,200,000	$190,500,000
STATE FUNDS	$623,368	$5,984,072	$6,870,020	$8,140,306	$8,664,144	$5,259,044	$5,107,442	$1,592,534	$42,240,930
TOTAL OF FEDERAL/STATE FUNDS	$6,233,670	$59,840,730	$68,700,192	$81,403,064	$86,641,438	$52,590,440	$51,074,430	$15,925,336	$422,409,300
TOTAL OF OBLIGATION LEVELS	$5,800,000	$54,000,000	$62,000,000	$73,400,000	$78,000,000	$47,400,000	$46,000,000	$14,400,000	$381,000,000

Innovation - To minimize risks associated with the construction phase of these projects, CTDOT has implemented procedures to address major risk issues that have been experienced on previous projects. These procedures result primarily from the close interaction between design and construction personnel during the development of the contract documents.

- The FHWA, along with CTDOT and the Designer - STV, conducted a Cost Estimate Review (CER) for the Moses Wheeler Bridge Projects. The purpose of the cost estimate review was to evaluate and minimize risks associated with bidding trends. The cost estimate was validated during this process and used in the financial plan.

- To minimize risks associated with the construction of the projects, a constructability and value engineering study (VE) for the original project was prepared and completed in 2001. The VE Study generated thirty-three proposals of which eleven are VE recommendations and twenty-two are design suggestions. The Department, Designer and the FHWA staffs reviewed these items during the VE review meeting and implemented the recommendations where appropriate. These included adding a structural monitoring system to the structure, designing the project to allow Interchange 33 to be expanded in the future and adding a steel superstructure alternative to the contract documents.

- The Moses Wheeler Bridge Project was broken-up into two separate projects. The first project, Project No. 138-232, which involves underwater and foundation work including the installation of 10 foot diameter caissons, will be bid in advance of the steel or concrete bridge superstructure and highway approach work. This allows the separation of the risky underwater foundation construction from the more typical superstructure construction. The goal is to attract specialized contractors for the foundation work that are set up to handle the sometimes unforeseen conditions that can occur during underground construction. This phased construction will limit the

first contract to two years and also reduces the contract duration for the second project, Project No. 138-221 from eight years to six years.

- Providing a concrete and steel alternate for the bridge is intended to reduce the overall costs by involving more Contractors to bid on these two projects and allowing the Contractors to provide different methodologies toward these projects.

- CTDOT's District construction personnel will continue the public involvement program that was initiated during the design phase. Meetings and press releases will be scheduled to inform the public of the construction schedule and proposed work activities for the projects.

4 Selection Criteria

4.1 Selection Criteria: Primary

4.1.1 Long Term Outcomes

(i) State of Good Repair:
In 1999, The Connecticut Department of Transportation classified the Moses Wheeler Bridge (Bridge No. 00135) as "deficient," meaning that the bridge has passed beyond its design life span and a major rehabilitation to this structure is warranted. Therefore, the No-Build Alternative was evaluated and considered not viable for this project. The current Bridge Sufficiency Rating is 29 and the bridge has an overall condition rating of 3 which indicates severe deterioration. Without extensive rehabilitation or replacement the bridge will be a constant drain on the State's limited maintenance budget and lane closures and delays will increase due to required emergency repairs and **the bridge could be subject to a reduced load limit**. **Over the last two years the bridge has required two emergency declarations for repair** work due to rideability (potholes in deck), safety (concrete debris falling on parking and streets below) and structural integrity. The first emergency declaration was a deck and bridge joint repair project preformed in 2008 and the second emergency declaration was a superstructure steel repair project currently in the final stages of construction. These projects combined for over $10 Million in construction and incidental costs. These repairs were intended to extend the life of the bridge for 5 to 10 years (until the new bridge is completed) and did nothing to improve safety or its condition rating.

The goal of this replacement project is to use current design criteria for the completed bridge and include the safety improvement of adding full-width shoulders (inside and outside) for the travel lanes in both directions. Currently there are only 1.5 foot shoulders and any incident on the bridge causes severe delays. A stalled vehicle immediately closes a travel lane.

The proposed bridge replacement project evolved from a complex study of various alternatives that would fulfill the purpose and need. The proposed alternative (Complete bridge replacement) has been shown to be the most feasible alternative because it improves safety, provides reduced life cycle costs compared to repeated repairs to the existing structure, reduces the encroachment into public trust waters and either avoids or minimizes adverse impacts on the environment, navigation and water dependant uses to the fullest extent practicable. This is not a freeway capacity project and the possibility of adding travel lanes to the bridge was not studied.

The preliminary design study investigated the feasibility and costs associated with:
Alternate 1. Replacement or widening of the superstructure in conjunction with the rehabilitation and extension of the existing substructure. Vulnerable substructure components would be retrofitted to current seismic design.
Alternate 2. Complete bridge replacement.

The complete bridge replacement (Alternate 2) was selected based on the following:

- This alternate results in a substantial reduction in the number of substructure units (piers), bridge bearings and expansion joints with associated reductions in long term maintenance costs.
- The possibility of age related deterioration of the existing bridge foundations will be eliminated and a 75-year service life will be realized.
- The initial cost of retrofitting the existing structure to the same seismic standard as a new bridge exceeds 80 percent of the cost for a new bridge.

The replacement bridge will be wider than the existing freeway approach section to accommodate full shoulders. Therefore, reconstruction of the highway approaches is necessary only as far as is required to effect a smooth transition from the widened bridge section into the existing freeway section and in order to accommodate the maintenance and protection of traffic scheme. Since the subject bridge is a critical link in the state's transportation infrastructure, reducing its scope and/or size is not possible.

(ii) Economic Competitiveness:
This project contributes to the economic competitiveness of the United States as it is part of the I-95 corridor that connects the U.S. on the east coast from Florida to Maine. This corridor is extremely important for inter and intrastate commerce. The corridor is located near many of the nation's largest seaports (Norfolk, New York, and Miami) and locally connects the ports in Bridgeport and New Haven. These ports are essential to the movements of goods within the U.S. The attractiveness of these ports to shippers is enhanced by their location near a corridor that reaches at least 25 percent of the nation's population. I-95 is heavily used by vacationers traveling to New England and is important for tourism which is vital to the economic health of CT and New England.

(iii) Livability:
Interstate 95 begins in Florida and ends in Maine. It is the anchor of surface transportation for the east coast of the continental United States. It passes through Connecticut in an east–west direction connecting the southern tier population and employment centers to nearly all major north/south arterials. I-95 is Connecticut's most heavily traveled roadway, meeting the transportation needs of some of the State's largest cities. Within Connecticut the highway serves and connects the cities of Stamford, Bridgeport, New Haven and New London, as well as a number of smaller communities around and in between these cities.

The project enhances this corridor by improving safety and reliability. Extensive delays are caused by emergency repairs. These are random events but very costly as far as commercial truck and commuter delay time. A new wider and safer structure improves the reliability of an existing major artery that connects two very economically depressed cities.

The project is on the GBRPA's long range plan and is consistent with regional land use plans and programs. This project is on the STIP. In developing this STIP, local public meetings were held to solicit public opinions for the projects in the STIP. In addition, there were several public informational meetings held specifically for this project. The design was adjusted to include a request by Milford citizens to widen the structure and alignment of the bridge to the north rather than the south in order to reduce the impact of the project on the local residences. A noise barrier wall was also requested and approved for the project in the same area. In Stratford, it was agreed that a noise wall that was eligible to be installed would not be installed since it would block the visibility of a new retail complex and bill boards. The design took into account the desire to improve and expand interchange 33 in the future. A bridge was widened to accommodate anticipated future traffic increases and the Moses Wheeler Bridge itself will not preclude construction of new interchange ramps in the future. This interchange improvement will enhance economic development along the Route 1 corridor in the future and would allow for easier access to existing retail and commercial establishments.

(iv) Sustainability:
This proposed bridge design was chosen based on the concept of minimizing potential impacts to regulated areas.

- There is no net loss of wetland area as a result of this project and the project does include mitigation to create tidal wetlands.
- The design reduces the number of bridge piers within the wetlands, inter-tidal flats and open water.
- The proposed bridge replacement will preserve, enhance and protect coastal resources to the greatest extent practicable.
- The proposed construction sequencing and methodologies have been designed to minimize adverse impacts to the environment, reduce encroachment waterward of the spring high tide line and into vegetated wetland areas.
- The project includes facilities to properly treat the water quality flow of the stormwater discharged from the project area.
- Also, numerous measures are included in the design to minimize temporary impacts from the project. These features include a temporary trestle system to ensure that construction equipment can traverse the wetland areas without disturbance, temporary foundation seals for pier construction, temporary enclosures for bridge demolition, the implementation of a sedimentation and erosion control plan and adhering to CTDOT's BMP's.

As stated above, this project is consistent with regional land use plans and programs. A new bridge will improve the aesthetics of the surrounding area by providing a modern structure to compliment the surrounding communities. In addition, improvements to and expansion of the State boat launch ramp in Milford, including the parking area and access road into the project are added benefits that will be realized by the users of the State's waterways.

Full documentation of the environmental process and approved permits are available at
http://www.ct.gov/dot/cwp/view.asp?a=1372&Q=444928&PM=1

(v) Safety:
I-95 has the most traffic accidents of all Connecticut State highways and interstate highways. The Bridgeport area (including Stratford) has the highest overall accidents in the state. Fairfield and New Haven Counties have the highest accident occurrence. I-95 also has the highest number of Tractor Trailer related accidents and fatalities. Traffic Accident Data for the section of I-95 between exits 33 and 34 that includes the bridge site can be found at http://www.ct.gov/dot/cwp/view.asp?a=1372&Q=444928&PM=1 . Please see ConnDOT Traffic Accident Facts and ConnDOT Traffic Accident Tables.

The goal of this project is to use current design criteria for the completed bridge and include safety improvement such as adding full-width shoulders (inside and outside) for the travel lanes in both directions. Currently there are only 1.5 foot shoulders and any incident on the bridge causes severe delays. A stalled vehicle immediately closes a travel lane. In addition, due the curvature of the alignment and the limited shoulder width and concrete median barrier and parapets there is substandard stopping sight distance. **The work on Route I-95 included in this project will improve safety by making geometric improvements to improve stopping sight distance and widen shoulders to conform to current standards**. The existing freeway is lighted and the reconstruction work includes construction of a new high mast median illumination system.

4.1.2 Evaluation of Expected Project Costs and Benefits

A formal benefit-cost analysis was conducted using best practices for benefit-cost analysis in transportation planning, and adheres to the TIGER grant application guidelines. It is important to note that a formal benefit-cost analysis is not a complete measure of a project's total economic impact, as many benefits cannot be readily

quantified and occur under conditions of uncertainty. The broader set of benefits and impacts on local and regional economies and competitiveness are described in Section 4.1.1 of the application.

The computed **benefit-cost ratio for the Moses Wheeler Bridge replacement project is a very favorable 3.4**. A breakdown of the benefits and costs underlying this ratio are shown in Exhibit 4-1. Note that all numbers presented in this section are in discounted 2009 dollars (using a discount rate of 7%), which includes the present value of all flows of benefits and costs. Backup information for the BCA methodology can be viewed at http://www.ct.gov/dot/cwp/view.asp?a=1372&Q=444928&PM=1. Please open the file "MWB B-C Methodology".

Exhibit 4-1: Breakdown of User Benefits and Project Costs for the Moses Wheeler Bridge

Benefit Description	Benefit Value (Discounted 2009 $)
Construction-Related Vehicle Travel Time Savings	$ 405,233,889
Accident-Related Vehicle Travel Time Savings	$ 31,533,584
Total Project Benefits	**$ 436,767,473**

Cost Description	Project Cost (Discounted 2009 $)
Design and Construction	$ 152,625,065
Operations & Maintenance	$ (4,813,253)
Residual Value of Bridge	$ (19,183,274)
Total Project Costs	**$ 128,628,539**
Total Net Present Value	**$ 308,138,934**
TOTAL BENEFIT-COST RATIO	**3.4**

Source: Parsons Brinckerhoff

This ratio is based on the assumption that bridge construction would occur from 2009 to 2016, with benefits materializing beginning in 2017. Benefits have been quantified through 2043, allowing for a total forecast horizon of 35 years.

The benefits and costs included in the analysis are described below:

Design & Construction Costs

The cost to design and construct the replacement to the Moses Wheeler Bridge is estimated to be $299 million in real 2009 dollars. These costs would be borne beginning in 2009 and concluding in 2016, with the new bridge becoming fully operational in 2017.

If the bridge were not built today, the poor current condition of the bridge would require substantial capital expenditures over the forecast period to maintain the bridge in a serviceable condition. It was estimated that in the absence of immediate bridge replacement, the following capital expenditures would be needed to ensure a minimum level of safety and operation:

Exhibit 4-2: Breakdown of Moses Wheeler Bridge No-Build Capital Costs

Year	Capital Cost Description	Estimated Cost (2009 $)
2010	Bridge drainage, fender system repairs	$6.5 million
2020 - 2023	Full deck & bearing replacement, steel repairs, substructure repairs, superstructure painting	$82 million
2035 - 2041	Full bridge replacement	$299 million
Total No-Build Capital Costs		**$387.5 million**

Source: STV Incorporated, Connecticut Department of Transportation

With major repairs scheduled in 2010 and again in 2020, the useful life of the bridge could be extended to 2035, but would need to be completely replaced at that time. Moreover, the full deck replacement and steel repairs that would be needed in 2020 to sustain future operation would take roughly three years to complete and would require one lane of traffic to be closed at all times during this period. The benefit of eliminating this future capital project on traffic flows is discussed in the "Construction-Related Travel Time Benefits" section below.
Thus, the capital costs incurred today in replacing the bridge were compared to these no-build capital costs that would be necessary to keep the bridge and I-95 open. When discounted at a 7 percent rate, the differential capital cost between build and no-build scenarios totaled $153 million, which is $77 million lower than the discounted project cost from 2009 to 2016.

Operations & Maintenance Costs
In the build scenario, the annual bridge operations & maintenance (O & M) costs were estimated to be $115,000 throughout the forecast horizon (see Exhibit 4-3 below). No-build operation and maintenance costs were estimated to be $670,000 from 2009 to 2020, and $190,000 from 2021 until the bridge replacement construction begins in 2035. From 2035 to 2045, no-build O & M costs were estimated to be $115,000, equivalent to the O & M costs in the build scenario. When discounted at a 7 percent rate, the total differential O & M costs between the build and no-build scenarios would carry a $4 million benefit to the state throughout the forecast period in the form of lower relative costs.

Exhibit 4-3: Breakdown of Moses Wheeler Bridge Operations & Maintenance Costs

O & M Cost Description	Estimated Cost (2009 $)			
	Build Scenario	No-Build Scenario (2010 to 2020)	No-Build Scenario (2021 to 2035)	No-Build Scenario (2036 to 2045)
Drainage	40,000	40,000	40,000	40,000
Crack Sealing	20,000	40,000	20,000	20,000
Bridge Collision Repairs	5,000	10,000	10,000	5,000
Joint Repairs	-	50,000	20,000	-
Added Inspections	-	100,000	-	-
Deck Patching	-	150,000	-	-
Loose Concrete Removal	-	40,000	-	-
Substructure Patching	-	40,000	25,000	-
Minor Steel Repairs	-	100,000	25,000	-
Spot Painting	50,000	100,000	50,000	50,000
Total O & M Costs	**$ 115,000**	**$ 670,000**	**$ 190,000**	**$ 115,000**

Source: STV Incorporated, Connecticut Department of Transportation

Residual Value of Bridge – Negative Cost
The useful life of the replaced Moses Wheeler Bridge is estimated to be 75 years. At the end of the forecast horizon in 2045, the bridge will have approximately 46 years remaining before major rehabilitation and replacement would be necessary. Therefore, the bridge will carry a residual value past the forecast horizon that has been estimated as a negative cost for this analysis.

The residual value has been estimated at $16 million in discounted dollars. Underlying this estimate is the assumption that the bridge will depreciate on a straight-line basis, with the residual value of the bridge equal to the real value of its construction cost multiplied by the share of its useful life remaining at the end of the forecast period.

Construction-Related Vehicle Travel Time Benefits
The major quantifiable benefit of the bridge replacement project is the elimination of future travel time delays that would occur if the bridge was not replaced today. These delays would be caused by the future capital

replacement projects needed just to maintain the Bridge at its current state of good repair rating, which would require lane closures for significant periods of time and cause major delays on I-95 for most of the day.

In particular, the current deck would need to be completely replaced in 2020 if the replacement project was not implemented. Such a replacement would require at least one lane of traffic to be closed in both directions at all times for roughly three years, which would cause severe delays on a daily basis and likely draw heavy opposition from the trucking industry and the residents of Connecticut.

It is estimated that the capacity of the bridge would fall to below 4,000 vehicles per hour in each direction if one lane were to be closed, which would cause 5 to 15 mile backups in both directions during different periods of the day. The average delay caused by this backup is estimated to be 18.5 minutes for all traffic using the bridge each day during the entire 2020-2022 period[1]. The cost of this delay for passengers in a no-build scenario was estimated by applying the forecasted ADT volumes in both directions with 18.5 minutes of additional travel time per trip, and the historical average of 1.424 passengers per vehicle[2], then valuing the additional travel time according to these criteria:

- Commercial vehicle trips - average 2009 hourly wage for truck drivers in the state of Connecticut, $24.23, plus a fringe benefits factor of 1.33[3].
- Passenger work trips - average 2009 hourly wage in Connecticut, $28.20, plus a fringe benefits factor of 1.33.
- Passenger non-work trips – one half of the average 2009 hourly wage in Connecticut, $28.20.

Commercial vehicle trips were assumed to maintain the 13 percent share of total ADT measured historically from Connecticut DOT. Due to a lack of more detailed information, passenger trips were split into work and non-work trips based on the 2003 USDOT value of time guidelines[4], with 5.6 percent of all passenger trips designated as work trips made for business purposes during working hours, and 94.4 percent of all trips comprising non-work trips.
With these assumptions in place, the benefits associated with the elimination of these congestion-induced delays due to the immediate replacement of the bridge were valued at $405 million in discounted 2009 dollars.

Accident-Related Vehicle Travel Time Benefits
Users of the bridge would also benefit from reduced delays caused by vehicle accidents, since the replaced bridge will have much wider shoulders to efficiently move damaged vehicles. As previously mentioned, the current bridge does not have adequate shoulders, which leads to major backups and travel time delays during accidents due to damaged vehicles remaining in one or more lanes. This problem will be resolved by the new design of the replacement bridge.

To estimate the benefits associated with more efficient accident management on the bridge, historical bridge vehicle accident data from 2003 to 2007 was analyzed and used to derive an annual estimate (65) of accidents. It was assumed that this historical average number of accidents would increase throughout the forecast horizon relative to the annual growth rates in vehicle traffic. For each projected accident, it was assumed that the accident would create, on average, a 45 minute travel time delay for all vehicles during a two hour window of the day, after which the damaged vehicles would presumably be cleared from the roadway. The costs of this delay were quantified using the same approach and data described in the previous section.

[1] Source: STV Incorporated.
[2] Source: Connecticut Department of Transportation.
[3] Source: Bureau of Labor Statistics
[4] Source: "Valuation of Travel Time in Economic Analysis", USDOT, February 2003.

The replaced bridge was assumed to reduce average travel delays from 45 minutes to 15 minutes during accidents, though the bridge is not expected to reduce the overall number of accidents in the future. These travel time savings were valued at $32 million in discounted 2009 dollars.

Other Benefits
The Moses Wheeler Bridge replacement project will also provide safety benefits to its users, since replacing the bridge now will ensure that its users will be safeguarded against any potential consequences of the current bridge's poor condition. However, this benefit was not able to be quantified due to a lack of information regarding the impact of the poor condition of the bridge on accident rates, injuries, etc.

4.1.3 Evaluation of Project Performance

The Connecticut Department of transportation published in January 2009 "*On the Move - a Performance Metrics Report*" that provides a Performance Measurement Tool that uses statistical evidence to determine progress toward specific organizational objectives. Here is a link to that report *http://www.ct.gov/dot/lib/dot/documents/dpublications/ctdot_on_the_move_performance_measures_report_011409.pdf* . This report measures the DOT's success at the following goals:

- Safety and Security – "It is the objective of the CTDOT to ensure the safety and security of all travelers on our multimodal transportation network."
- Preservation – "It is the objective of CTDOT to preserve and maintain Connecticut's transportation infrastructure. ….. By monitoring the condition of roads, bridges and waterways and by utilizing advanced management programs, the Department strives to preserve the infrastructure and maximize the useful life of facilities and equipment."
- Efficiency & Effectiveness – "Given the current economic turmoil, it is more important than ever to increase efficiency and effectiveness, thereby providing more service with less resources."
- Quality of Life – "It is the objective of CTDOT to improve the overall quality of life for the residents of Connecticut by expanding mobility options and embracing designs the promote liveability and are compatible with the environment."
- Accountability & Transparency – "It is the objective of CTDOT to be committed to full transparency in all of its business matters. The Department will continue to find ways to effectively communicate and make public all of its business practices and process by ensuring the highest level of integrity in the use of public funds."

This program will be utilized to measure current and future performance within the project corridor and will be modified to include economic recovery outcomes. The quarterly update to the January 2009 report has also been posted at CTDOT's web site and can be found at – *http://www.ct.gov/dot/lib/dot/documents/dcommunications/misc/Performance_Measures__Q1_2009_Combined_rev82109_DAL_.pdf*

4.1.4 Job Creation & Economic Stimulus

Calculation of Construction-Induced Economic Impacts for the Moses Wheeler Bridge Project

The Moses Wheeler Bridge project is expected to create significant near-term economic benefits for the Fairfield and New Haven County areas, the State of Connecticut, in addition to other regions of the United States. Connecticut's economic benefits from the project would be driven by an increase in construction spending in the region. These project expenditures would generate a short term increase in demand for engineering and technical services, as well as constriction-related labor and materials.

To quantify the near-term economic benefits of this project an analysis was conducted utilizing Bureau of Economic Analysis (BEA) Regional Input-Output Modeling System (RIMS II) multipliers. RIMS II multipliers classify each capital cost category according to industrial sectors using North American Industry Classification System (NAICS) codes and can vary widely depending on the geographic region being analyzed. This particular analysis utilizes RIMS II data for the State of Connecticut and New Haven County[5]. The multipliers were used to determine the quantity and industry composition of benefits generated by the project resulting in estimations of short-term job creation, earnings, and economic output as a result of the project. The multipliers estimate two types of impacts:

- **Direct Impacts**: Direct impacts represent new spending, hiring, and production by civil engineering construction companies to accommodate the demand for resources in order to complete the project.
- **Indirect/Induced Impacts:** Indirect impacts result from the quantity of inter-industry purchases necessary to support the increase in production from the construction industry experiencing new demand for its goods and services. All industries that produce goods and services consumed by the construction industry will also increase production and, if necessary, hire new workers to meet the additional demand. The level of inter-industry trade within the area will determine the size of the indirect impact. Induced impacts stem from the re-spending of wages earned by workers benefiting from the direct and indirect activity within area. For example, if an increase in demand leads to new employment and earnings in a set of industries, workers in these industries will spend some proportion of their increased earnings at local retail shops, restaurants, and other places of commerce, further stimulating economic activity.

In addition to measuring the effects of the project on the Fairfield and New Haven County economies, the economic impacts that will accrue to the rest of the state due to the project were also quantified. These impacts, referred to as "spillover" benefits, reflect the inter-county trade that occurs to supply industries in New Haven County with the goods and services it needs to increase production.

The results of the short term economic impacts are shown below in Exhibit 1:

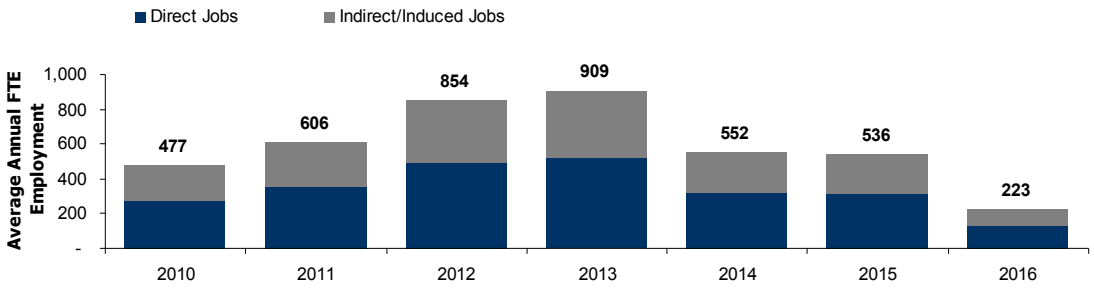
Exhibit 1: Summary of near-term economic impacts resulting from the project.

Direct Impacts	
Employment (Average Annual FTE Employment)	358
Earnings (2009 $)	$119,964,000
Output (2009 $)	$230,945,000
Indirect/Induced Impacts	
Employment (Average Annual FTE Employment)	260
Earnings (2009 $)	$69,513,000
Output (2009 $)	$366,049,000
Total Impacts	
Employment (Average Annual FTE Employment)	618
Earnings (2009 $)	$189,476,000
Output (2009 $)	$596,994,000

[5] RIMS II industry codes *7 (Construction), 16* and *47 (Professional, Scientific, and Technical Services)* were utilized in this analysis.

Beginning in 2011, the Moses Wheeler Bridge project is expected to generate significant economic benefits for the region. An estimated average of 618 jobs will be created annually by the project, including an average of 358 direct jobs per year. Exhibit 2 shows the profile of average annual full-time equivalent (FTE) employment generated by the project's expenditures. At the peak of spending, in the first quarter of 2013, approximately 909 FTE persons are employed as a result of the project, including 526 direct jobs.

Exhibit 2: Average Annual Employment per Year During Construction



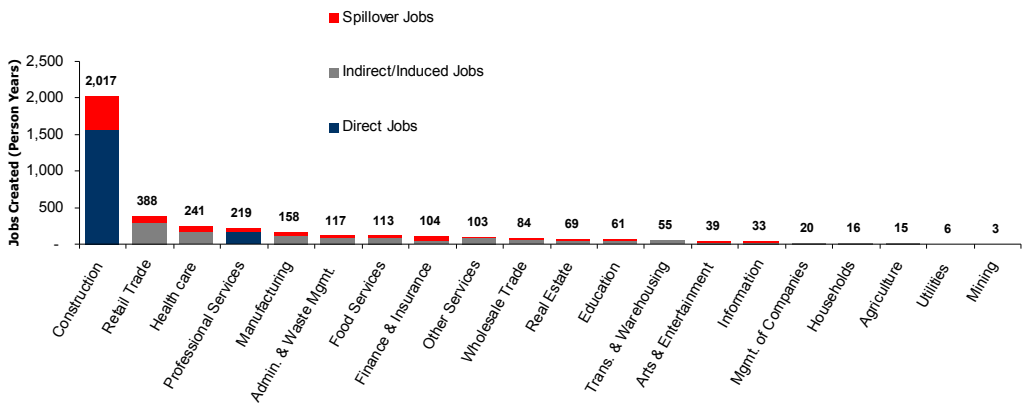
In total, the project is projected to create 3,862 person years of employment, including 2,237 direct job person years. Exhibit 3, below, shows the number of persons directly employed on the project per quarter.

Exhibit 3: Direct (On-Project) Jobs by Quarter

2010		2011				2012	
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
276	276	351	351	351	351	495	495
2012		2013				2014	
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
495	495	526	526	526	526	320	320
2014		2015				2016	
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
320	320	310	310	310	310	129	129
2016							
Q3							
129							

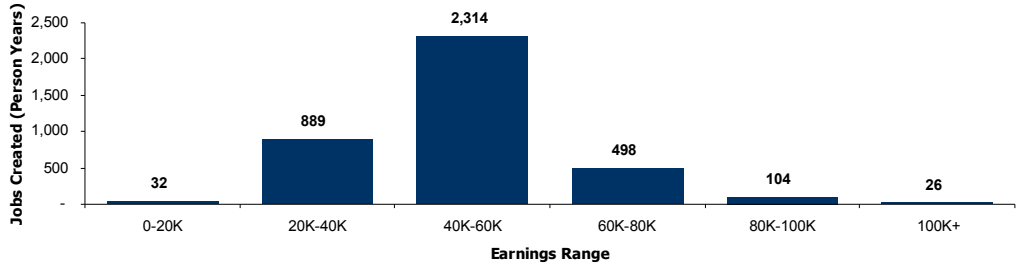
Exhibit 4 shows the breakdown of jobs created by industry and type of impact. As expected, the civil engineering construction industry is estimated to receive the largest increase in jobs from the project (2,017 person years), almost all of which are direct jobs created. The industries that will see the largest number of indirect jobs created include retail trade (388 person years), health care (241 person years), professional services (219 person years), manufacturing (158 person years), administration and waste management (117 person years), food services (113 person years), finance and insurance (104 person years) and other services (103 person years).

Exhibit 4: Breakdown of Job Creation by Industry and Type of Impact



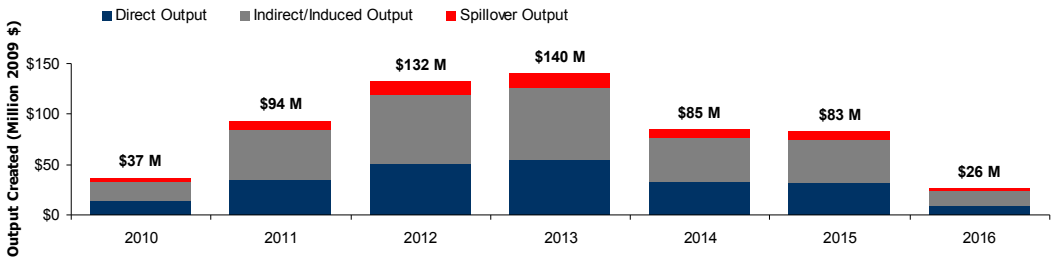
It is also important to consider the quality of the jobs that would be created by the project, which can be most easily measured by the number of jobs created at various levels of compensation. Exhibit 5 shows that the majority of jobs generated by the project would receive compensation above $40,000/year, which is above the average US per capita income. This indicates that the project would generate jobs that are above the average US per capita income. This will help stimulate the regional economy.

Exhibit 5: Breakdown of Job Creation by Earnings Range



The amount of short-term economic activity generated by the project is shown in Exhibit 6. In total, the project would generate $597 million in real economic output (measured in 2009 dollars), with over $37 million dollars of economic output generated in 2010. The majority of economic activity would be generated in 2013.

Exhibit 6: Breakdown of Statewide Economic Output Generated by Contract



(i) Project Schedule:

In 2008 the project was split into two projects for construction. The first project includes construction of the drilled shaft foundations for the Moses Wheeler Bridge is scheduled to start construction in late 2009 and the remaining work is being packaged for a construction start in 2010. Completion of construction is anticipated to be

in 2017. **TIGER Grant funds provided for this project will be utilized for the earliest phase of the second project and can be fully utilized by the end of 2011.**

(ii) Environmental Approvals:
Permits and Approvals that have been obtained for the Project:
State of Connecticut
- DEP General Inland/Wetlands Permit – Issued May 17, 2007
- DEP Inland Flood Management Certificate – Issued April 10, 2007
- DEP 401 Water Quality Certificate – Issued August 20, 2008
- DEP Structure Dredging & Fill and Tidal Wetland - Issued August 20, 2008
- DEP – General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities – to be submitted by the District Engineer when project is advertised for construction

Federal
- Categorical Exclusion Approval and Design Approval – Issued December 12, 2001
- Programmatic 4(f) Evaluation for the State Boat Launch Area – Issued March 1, 2007
- U.S. Army Corps of Engineers Individual Permit – Issued September 17, 2008
- U.S. Coast Guard Permit – Issued May 11, 2009

(iii) Legislative Approvals: ***NONE WERE REQUIRED***

(iv) State and Local Planning:
This project is consistent with the GBPRA & SCROG long range plan and is on the local Transportation Improvement Plan and the State's Transportation Improvement Plan. Complete information on these plans is available at http://www.ct.gov/dot/cwp/view.asp?a=1372&Q=444928&PM=1 . Please see CTDOT STIP Webpage and CTDOTSTIP Project List.

(v) Technically Feasible:
During study and preliminary design phases, substantial effort was put into formal constructability study (competed in 2000) and value engineering processes (completed in 2001). Project final design was started in 2002. Final design of the project had been completed to the 99% level when a decision was made to incorporate an optional Steel Superstructure design to the bid documents. A 90% submittal on this design is scheduled for September 2009. Meanwhile, a breakout package was created to start construction of the bridge foundations early. The foundation package has been awarded and construction is starting in August 2009. This contract is scheduled for completion in August 2011. The final bid documents for the rest of the project (the subject of this application) will be ready for bidding in the Spring of 2010.

(vi) Financially Feasible:
The project financial plan, previously outlined in section 3 Grant Funds, has been approved by FHWA after an extensive CER process that validated the construction costs for the project within acceptable risk levels. Federal funds have been identified, Highway Bridge Rehabilitation – On System Funds and Interstate – Maintenance Funds are currently designated for 90% of the project. State of Connecticut_Bridge Bond Funds and Intrastate Bond Funds have been approved by the State Bonding Commission and are designated in the plan to cover the remaining 10% of the project construction costs.

The State of Connecticut has extensive experience in applying for and monitoring Federal Grants from various funding sources for over 30 years.

4.2 Selection Criteria: Secondary

4.2.1 Innovation

Incident Management- The Route I-95 portion of the project is under video surveillance by an Indent Management System (IMS). One cameras capture portions of Route I-95 near Interchange 33 and another near Interchange 34. The IMS is jointly operated by CTDOT and the State Police from a Traffic Operations Center (TOC) in Bridgeport. The TOC is staffed 24/7 by operators that respond to incidents and other conditions through established response protocols. A network of fixed-location changeable message signs is controlled from the TOC. When warranted and available, these signs will be used to mitigate work zone impacts. The Connecticut Highway Assistance Motorist Program (CHAMP) is operated by CTDOT and provides service throughout the Route I-95 portion of the project. Services include jump starting, pushing disabled vehicles to the shoulder, fuel, changing flat tires and jump starts. Service patrols also react to accidents and notify the TOC of the need for State Police, medical, fire and/or other emergency response. The incident management systems, protocols and interagency coordination in effect prior to the project and outside the work zone limits will be employed for the work zone. The design of the project includes maintaining and utilizing these systems during construction and upgrading the system within the project limits to current standards.

4.2.2 Partnership

This project is on the STIP. In developing this STIP, local public meetings were held to solicit public opinions for the projects in the STIP. In addition, there were several public informational meetings held specifically for this project. The first public informational meeting was held in Milford in June of 2000. This was followed by public information meetings in both Stratford and Milford in June of 2001. An information meeting was held with CT DEP in April 2004. Several meetings and hearings were held in 2008 as part of the Permit Process and close coordination was maintained with the Stratford Harbor Commission and local concerned citizens in 2008. The project is welcome and accepted by all affected parties and communities.

4.2.3 Program-Specific Criteria (Bridge Replacement Projects)

(i.) Total daily truck and non-truck traffic
Current total ADT (2008) for this section of I-95 is 111,200
Of that amount 13% is truck traffic

(ii.) Bridge sufficiency rating - 29

(iii) Load or geometric constraint – Geometrics are substandard because of lack of usable shoulders. Curvature of bridge also restricts sight distance. Addition of shoulders will eliminate this substandard feature.

5 Federal Wage Rate Requirement

CTDOT has signed a federal wage rate certification stating that it will comply with Subchapter IV of Chapter 31 of Title 40 of the United States Code. This certification can be found at the following internet link http://www.ct.gov/dot/lib/dot/documents/dcommunications/stimulus/tiger/Federal_Wage_Certification_082509.pdf.

6 NEPA Requirement

Project received concurrence to be classified as a Categorical Exclusion and received FHWA Design Approval on December 12, 2001 per letter signed by Bradley Keazer, Division Administrator, FHWA. This document is available at http://www.ct.gov/dot/lib/dot/documents/dcommunications/stimulus/tiger/moses/Categorical_Exclusion.pdf.

7 Environmentally Related Federal, State and Local Actions

The following Permits and Approvals have been received for this project:

State of Connecticut:

- Department of Environmental Protection General Inland/Wetlands Permit – Issued May 17, 2007
- Department of Environmental Protection Inland Flood Management Certificate – Issued April 10, 2007
- Department of Environmental Protection 401 Water Quality Certificate – Issued August 20, 2008
- DEP Structure Dredging & Fill and Tidal Wetland - Issued August 20, 2008
- Department of Environmental Protection – General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities – to be submitted by the District Engineer when project is advertised for construction

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- Programmatic 4(f) Evaluation for the State Boat Launch Area – Issued March 1, 2007
- U.S. Army Corps of Engineers Individual Permit – Issued September 17, 2008
- U.S. Coast Guard Permit – Issued May 11, 2009

8 Confidential Information

There is no confidential information that should be noted for this application per the Guidelines published in the Federal Register.